PHENIX

PHENIX MuTr STATION 2 NORTH INSTALLATION PROCEDURE

procedure name

PHENIX Procedure No. PP-2.5.5.4-20

Revision: A **Date: 4-22-02**

Hand Processed Changes

HPC No.	Date	Page Nos.	Initials

Approvals

4/24/02
PHENIX S E & I Date

Cognizant Scientist/Engineer Date
/Activity Manager

4/24/02
PHENIX Safety Date

4/24/02
CA-D LIAISON Date

REVISION CONTROL SHEET

LETTER	DESCRIPTION	DATE	WRITTEN BY	APPROVED BY	CURRENT OVERSIGHT
A	First Issue	04/22/2002	n/a	P. Kroon, D. Lee, W. Lenz, C. Pearson	n/a
RETIRED	Installation Complete	3/21/2007	n/a	D. Lynch, P. Giannotti, R. Pisani for PHENIX	D. Lynch

Station 2 North Installation Procedure

1.0 Purpose and Scope

1.1 The purpose of this procedure is to provide direction for the rigging of the station 2 North octants. This procedure will provide detailed instructions for the safe installation of the octants onto its mounting location on the back of the "spider". Note that the weight for each octant is 325 lbs.

2.0 Responsibilities

2.1 All operations shall be performed under the direction of the PHENIX experimental hall "person-in-charge", or their designee.

2.2 Due to the delicacy of this structure, and the critical alignment of its assembly in the magnet, this procedure and all relevant BNL safety guidelines must be strictly adhered to. In accordance with BNL policy, any individual may cease operations if they in any way feel unsafe or if they believe unsafe procedures are being followed, such a complaint shall be reviewed by the cognizant engineer, and if necessary, BNL ES&H service.

3.0 Prerequisites

3.1 Training: All personnel involved in this procedure shall have reviewed this procedure, and be fully knowledgeable about the way in which the octant is mounted in the North magnet. A meeting will take place with all participants involved with this installation to review all aspects and answer any questions that any of the personnel may have. All personnel shall sign acknowledgement sheets to this affect.

3.2 All personnel involved with in this procedure shall have current BNL safety training requirements met to work in the PHENIX experimental hall, Bldg. 1008. The crane operator must have a current BNL crane operation safety training.

3.3 All personnel involved in this procedure shall wear hardhats and safety shoes.

4.0 Precautions

4.1 The area where rigging operations will be performed shall be cordoned-off to all personnel except the "person in charge" and the technicians assigned to perform this procedure.

4.2 Some operations will require personnel to work in close proximity to suspended loads. Do not permit anyone to be positioned under the load.

4.3 Lift the octants with the commercial lifting fixture only and only with the protective covers in place on the octant.

5.0 Equipment List

5.1 Appropriate ANVER lifting fixture.

5.2 "C" fixture, Dwg. No. 002-0212-610-1A.

5.3 Guide ropes.

5.4 Shackles

6.0 Preparation

6.1 Support "spider" in place.

6.2 Stainless threaded rods in place on the "spider" where the octant is to be placed. No other threaded rods in place on spider except where octant is already installed.

7.0 Procedure

7.1 Front octants.(smaller octants)

7.1.1 The frame side with the machined surface cutout faces downstream. Installation proceeds from the bottom of the spider to the top at every other location beginning at 6:00 o'clock and proceeding in order 6:00,3:00,9:00,12:00.

7.1.2 FIRST OCTANT ONLY _ 6:00 position

7.1.2.1 Attach "C" fixture to the crane hook and attach the ANVER lifting fixture to the "C" fixture.

7.1.3 Attach the ANVER lifting fixture to the octant in the horizontal position following the manufacturer's instructions and with the fixtures provided. Lift the octant and tilt the octant to a vertical position.

7.1.4 Rotate the octant to the orientation in the "spider".

7.1.5 Attach guide ropes to the octant.

7.1.6 First Octant Only

7.1.6.1 Lift and lower the octant in place downstream of the spider, to allow possible rotation of the octant to get into position under the piston. Once the octant is directly under the piston move upstream and attach to the "spider" at the outside boundary. Place temporary nuts and spacers on the side threaded rod, using guide ropes as needed to stabilize the octant

7.1.7 Remaining octants

7.1.7.1 No "C" fixture needed. Lift and lower the octant into place. Attach the spider to the outside assembly and place temporary nuts and spacers on the threaded rod on the sides.

7.1.8 Remove aluminum plates on the upstream side of the octants.

7.1.9 Install alignment lenses.

7.2 Rear Octants.

7.2.1 The frame side with the machined surface for the lens blocks faces downstream. Installation proceeds from the bottom of the spider to the top at every other location beginning at 4:30 o'clock and proceeding in order 4:30,7:30,1:30,10:30.

7.2.2 Attach the ANVER lifting fixture to the octant in the horizontal position following the manufacturers instructions. Lift the octant and tilt the octant to a vertical position.

7.2.3 Rotate the octant to the orientation in the "spider".

7.2.4 Attach guide ropes to the octant.

7.2.5 Remove temporary nuts on adjacent octants on the sides.

7.2.6 Attach 2 stabilizer brackets to the outside cross member on the spider, drawing number 002-0212-806 D10.

7.2.7 Remove protective aluminum cover on upstream side of octant.

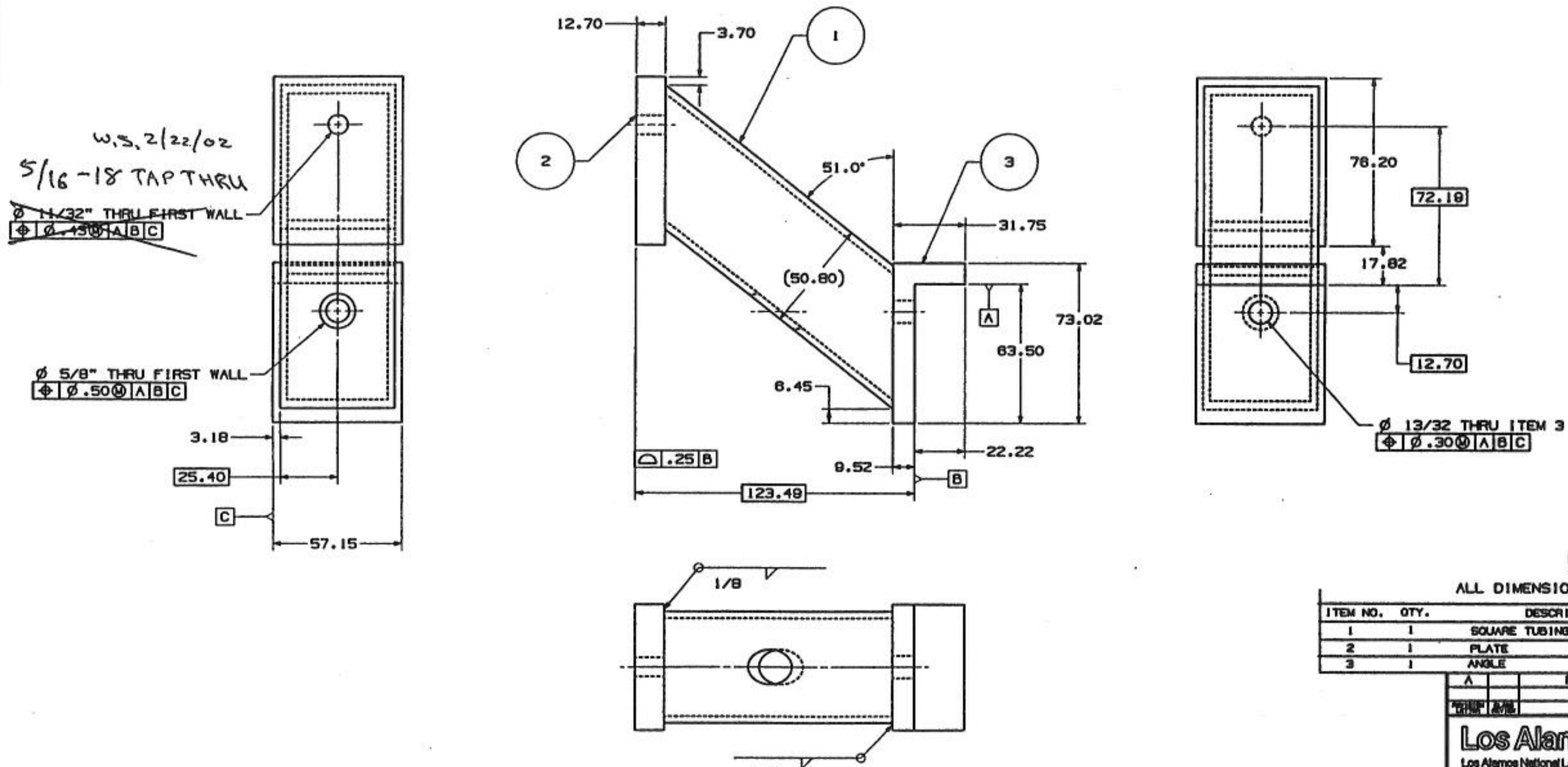
7.2.8 Lift and lower the octant into place and attach to the stabilizer brackets at the outside boundary. Place nuts and washers on the side threaded rods and torque to 20 ft-lbs. Use guide ropes as needed to stabilize the octant until nuts are secured.

7.2.9 Install alignment lenses.

7.3 Remove downstream protective covers as the FEE system is installed.

8.0 Alignment

8.1 Survey the octants and fine tune locations of the octants beginning at the bottom and working towards the top from the downstream side. Check all mounting nuts for torque of 20 ft-lb.



NOV 0 9 2001

ALL DIMENSIONS IN MILLIMETERS

ITEM NO.	QTY.	DESCRIPTION	MATERIAL
1	1	SQUARE TUBING 2" X 2" X .120 WALL	SST-304
2	1	PLATE	SST-304
3	1	ANGLE	SST-304

REVISION	REVISIONS	DATE	APPROVED
A	INITIAL RELEASE	11/01	WALT
	ORIGINAL ISSUE		

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

CLASSIFICATION: UNC
PARTS: UNC TITLE BLOCK: UNC

TITLE
STATION 2 NORTH
SUPPORT SPIDER
REAR OCTANT STABILIZER

	SIGNATURE	DATE	GROUP
DESIGNED	WALT	11/01	P-25
DRAWN			
CHECKED			
PROJ. ENGR.			
APPROVED			
RELEASED			

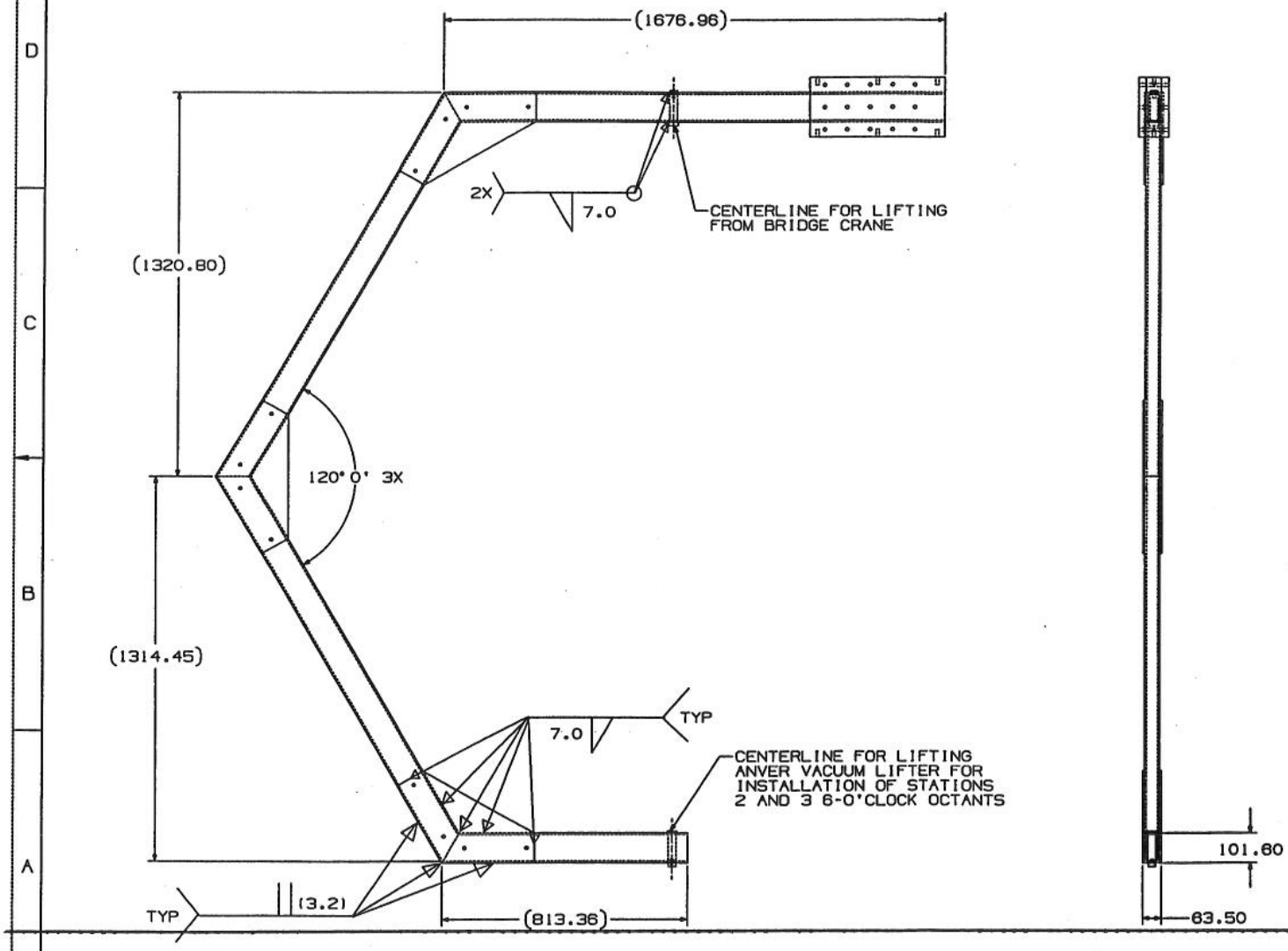
PHENIX DRAWING NO. 002-0212-808-D10

TOLERANCE - (UNLESS OTHERWISE NOTED): 0.XX ±.25 ANGULAR ±.25 FINISH 3.2

SCALE 1:1 DRAWING NO. 128Y-267808 SIZE D SHEET NO. 10

NOTES: UNLESS OTHERWISW SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANASI Y14.5M-1994
2. SURFACE TEXTURE PER ANI/ASME B 46.1-1985
3. REMOVE ALL BURRS AND BREAK SHARP EDGES TO A MAX. OF .4
4. ALL INSIDE CORNERS TO BE .4 RADIUS MAX.
5. COUNTERSINK 82 DEGREES ALL TAPPED HOLES TO MAJOR DIAMETER
6. COUNTERSINK 82 DEGREES APPROXIMATELY .8 DEEP ALL DRILLED HOLES
7. PARTS TO BE THOROUGHLY CLEANED TO REMOVE ALL OIL, GREESE, DIRT AND CHIPS



NOTES:
UNLESS OTHERWISE SPECIFIED

1. DRAWING GIVING WELD CALL OUTS FOR JUNCTIONS OF RECTANGULAR TUBING AND 1/2 INCH STEEL PLATES
2. NOTE ALL AROUND WELD ON OUTSIDE EDGES OF THE TWO 1.INCH DIAMETER STEEL PLUGS
3. WELDS PER ANSI/AWS D1.1
4. WELD SYMBOLS PER ANSI/AWS A2.4-93
5. BREAK SHARP EDGES, CHAM. OR R. 1 TO 2 MM.

ALL DIMENSIONS IN MILLIMETERS

A	INITIAL RELEASE	2/00		WALT
	ORIGINAL ISSUE			

Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

	SIGNATURE	DATE	GROUP
DRAWN	WALT	2/00	P-25

LIFTING FIXTURE FOR STATIONS 2 & 3 6-O'CLOCK OCTANTS

PHENIX DRAWING NO. 002-0212-810-1A

TOLERANCE - UNLESS OTHERWISE NOTED:
XXX ± .25 ANGULAR ± .25

SCALE .15

126Y-267791 D 1A